



6SN7-GTA

# MEDIUM-MU TWIN TRIODE

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## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathodes:

Voltage . . . . . 6.3 . . . . . ac or dc volts  
Current . . . . . 0.6 . . . . . amp

Direct Interelectrode Capacitances (With no external shield):

	Unit No.1	Unit No.2	
Grid to plate . . . . .	4	3.8	$\mu\mu\text{f}$
Grid to cathode and heater . .	2.2	2.6	$\mu\mu\text{f}$
Plate to cathode and heater . .	0.7	0.7	$\mu\mu\text{f}$

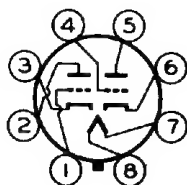
### Characteristics, Class A<sub>1</sub> Amplifier (Each Unit):

Plate Voltage . . . . .	90	250	volts
Grid Voltage . . . . .	0	-8	volts
Amplification Factor . . . . .	20	20	volts
Plate Resistance (Approx.) . . .	6700	7700	ohms
Transconductance . . . . .	3000	2600	$\mu\text{mhos}$
Plate Current . . . . .	10	9	ma
Plate Current for grid voltage of -12.5 volts . . . . .	-	1.3	ma
Grid Voltage (Approx.) for plate current of 10 $\mu\text{amp}$ . . . . .	-7	-18	volts

### Mechanical:

Mounting Position . . . . . Any  
Maximum Overall Length . . . . . 3-5/16"  
Maximum Seated Length . . . . . 2-3/4"  
Maximum Diameter . . . . . 1-9/32"  
Bulb . . . . . T-9  
Base . . . . . Short Intermediate-Shell Octal 8-Pin  
with External Barriers (JETEC No. B8-58)  
Basing Designation for BOTTOM VIEW . . . . . 8BD

Pin 1 - Grid of  
Unit No.2  
Pin 2 - Plate of  
Unit No.2  
Pin 3 - Cathode of  
Unit No.2  
Pin 4 - Grid of  
Unit No.1



Pin 5 - Plate of  
Unit No.1  
Pin 6 - Cathode of  
Unit No.1  
Pin 7 - Heater  
Pin 8 - Heater

## AMPLIFIER - Class A<sub>1</sub>

Values are for Each Unit

### Maximum Ratings, Design-Center Values:

PLATE VOLTAGE . . . . . 450 max. volts  
CATHODE CURRENT . . . . . 20 max. ma

JUNE 14, 1954

TUBE DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA 1

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## PLATE DISSIPATION:

Either plate . . . . .	5 max.	watts
Both plates (Both units operating) . . .	7.5 max.	watts

## PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200 <sup>▲</sup> max.	volts

## Maximum Circuit Values:

### Grid-Circuit Resistance:

For fixed-bias operation . . . . .	1 max.	megohm
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## Typical Operation as Resistance-Coupled Amplifier:

See RESISTANCE-COUPLED AMPLIFIER CHART No. 29  
at front of this Section

## HORIZONTAL DEFLECTION OSCILLATOR

Values are for Each Unit

## Maximum Ratings, Design-Center Values:

For operation in a 525-line, 30-frame system<sup>□</sup>

DC PLATE VOLTAGE . . . . .	450 max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE <sup>♣</sup> . . . .	600 max.	volts
CATHODE CURRENT:		
Peak . . . . .	300 max.	ma
Average . . . . .	20 max.	ma

## PLATE DISSIPATION:

Either plate . . . . .	5 max.	watts
Both plates (Both units operating) . . .	7.5 max.	watts

## PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200 <sup>▲</sup> max.	volts

## Maximum Circuit Values:

### Grid-Circuit Resistance:

For fixed-bias, grid-resistor bias, or cathode-bias operation . . . . .	2.2 max.	megohms
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## VERTICAL DEFLECTION OSCILLATOR

Values are for Each Unit

## Maximum Ratings, Design-Center Values:

For operation in a 525-line, 30-frame system<sup>□</sup>

DC PLATE VOLTAGE . . . . .	450 max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE <sup>♣</sup> . . . .	400 max.	volts
CATHODE CURRENT:		
Peak . . . . .	70 max.	ma
Average . . . . .	20 max.	ma

<sup>▲</sup>, <sup>□</sup>, <sup>♣</sup>, <sup>\*</sup>: See next page.

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TENTATIVE DATA 1

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## MEDIUM-MU TWIN TRIODE

### PLATE DISSIPATION:

Either plate . . . . . 5 max. watts  
Both plates (Both units operating) . . . 7.5 max. watts

### PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode 200 max. volts  
Heater positive with respect to cathode 200<sup>▲</sup> max. volts

### Maximum Circuit Values:

#### Grid-Circuit Resistance:

For fixed-bias, grid-resistor bias, or  
cathode-bias operation . . . . . 2.2 max. megohms

### VERTICAL DEFLECTION AMPLIFIER

*Values are for Each Unit*

### Maximum Ratings, Design-Center Values Except as Noted:

*For operation in a 525-line, 30-frame system<sup>□</sup>*

DC PLATE VOLTAGE . . . . . 450 max. volts

PEAK POSITIVE-PULSE PLATE VOLTAGE<sup>■</sup>  
(Absolute Maximum) . . . 1500 max. volts

PEAK NEGATIVE-PULSE GRID VOLTAGE . . . . . 250 max. volts

### CATHODE CURRENT:

Peak . . . . . 70 max. ma  
Average . . . . . 20 max. ma

### PLATE DISSIPATION:

Either plate . . . . . 5 max. watts  
Both plates (Both units operating) . . . 7.5 max. watts

### PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode 200 max. volts  
Heater positive with respect to cathode 200<sup>▲</sup> max. volts

### Maximum Circuit Values:

#### Grid-Circuit Resistance:

For cathode-bias operation . . . . . 2.2 max. megohms

<sup>▲</sup> The dc component must not exceed 100 volts.

<sup>□</sup> As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.

<sup>◆</sup> This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

<sup>\*</sup> This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

<sup>■</sup> Under no circumstances should this absolute value be exceeded.

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TENTATIVE DATA 2

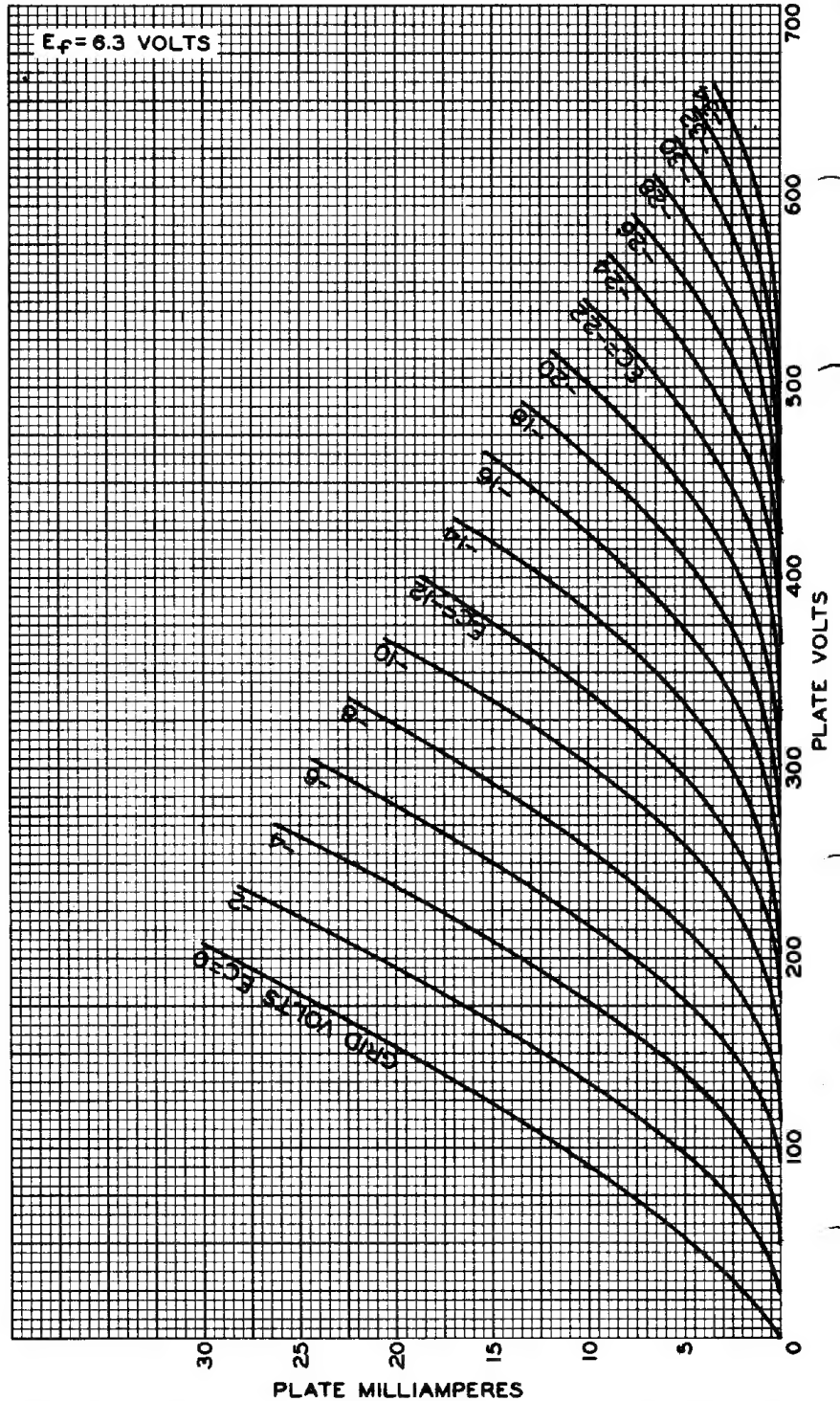
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AVERAGE PLATE CHARACTERISTICS  
FOR EACH UNIT



APRIL. 28, 1954

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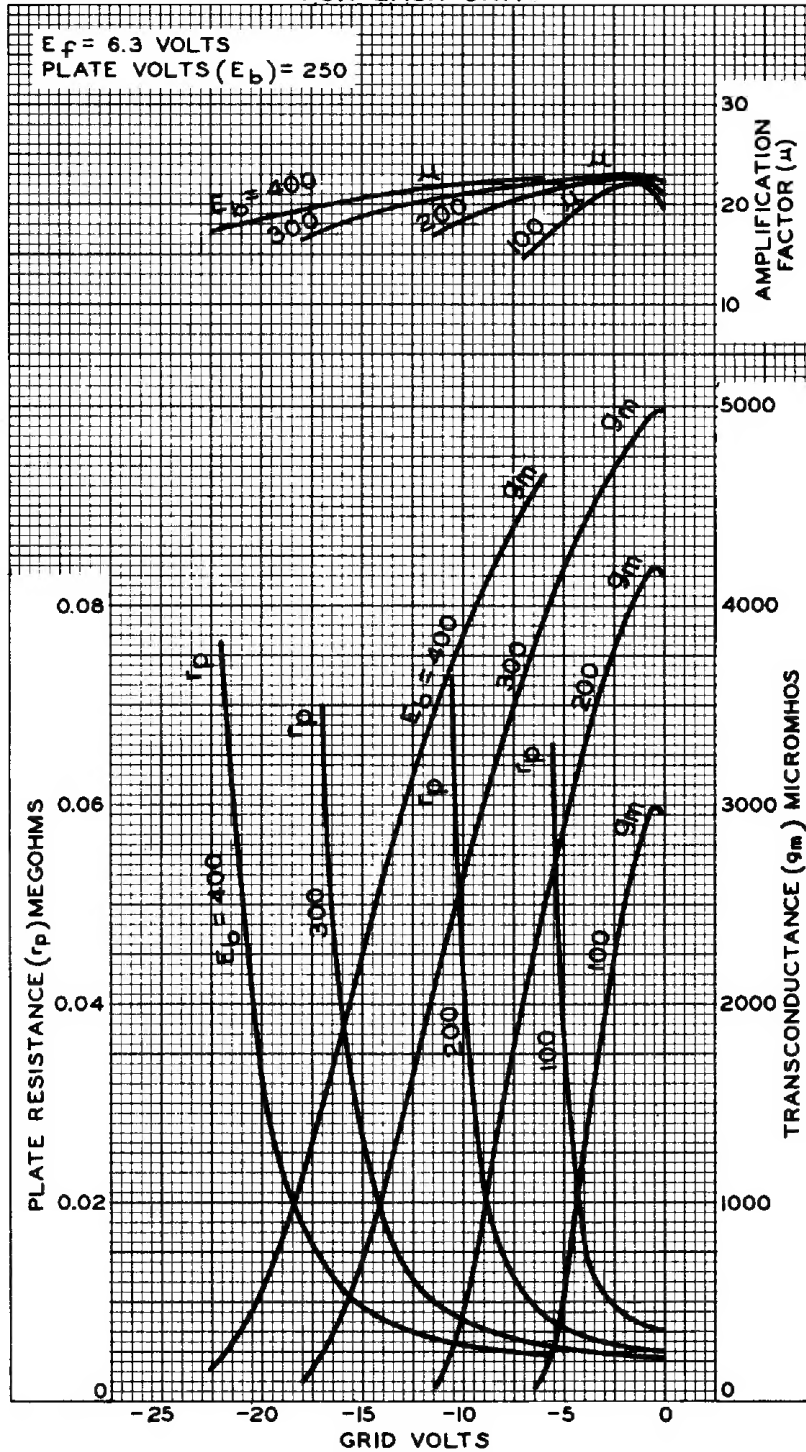
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AVERAGE CHARACTERISTICS  
FOR EACH UNIT

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OCT. 14, 1953

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